up from the receptive end organ, by the cardiac nerves to the cervical ganglia of the sympathetic, they pass in by the gray rami communicantes to the posterior spinal roots, and thence run upward in the ascending tracts of the spinal cord. In the cortex cerebri the impulses which are produced give rise to sensation, but, as Head puts it, "the sensory and localizing power of the surface of the body is enormously in excess of that of the viscera, and thus by what might be called a psychical error of judgment, the diffusion area is accepted by consciousness and the pain is referred on to the surface of the body instead of on to the organ actually affected." The result is that the patient seems to feel uneasy or painful sensations over the precordia, shoulder and upper extremity. That the cervical sympathetic is involved in this case cannot be denied on account of the ocular phenomena, and the history may be taken as a proof of the contention that this system is a means of conducting afferent impulses from the heart.

5. *Trigeminal-Aural Reflex.*—Dr. Horsley contributes a physiological study of the reflex of the ears in rabbits.

6. *Tendo Achilles Jerk.*—Dr. Rolleston contributes a report of his observation of 100 cases of diphtheria in which the Achilles jerk was investigated up to the time when the patient began to sit up. This period necessarily was widely varied by the severity of the case, the condition of the heart, and the presence or absence of paralysis. In some cases it was as short as twenty days, and in others extended to sixty-three from the onset of the disease. The observations were made with the patient in a recumbent position. In twenty cases the Achilles jerk was completely lost, and in twenty-seven was found to be sluggish. In the other fifty-three cases it remained fully active throughout the whole period. The author summarizes as follows: (1) The tendo-Achilles jerks are affected in a considerable proportion of all cases of diphtheria, though less frequently than the knee jerks. (2) The frequency and extent to which they are affected bear, like albuminuria and paralysis, a direct relation to the character of the initial faucial attack. (3) They are completely abolished in all cases of diphtheritic paraplegia. (4) Their absence may be the only evidence of loss of power in the lower limbs. (5) Like the knee jerks, they are liable to be affected at an early stage of the disease, and to remain absent after diappearance of all diphtheritic paralysis, properly so-called. (6) Like the knee jerks, again, they may be unequally affected on the two sides, and, like the former, they may be unusally brisk before they become sluggish and disappear. (7) The Achilles jerk, like the knee jerk, after it has been lost, may reappear on one side before it does on the other. Jelliffe.

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6. Studies of a Case of Hemicephalus, with Contribution to the Physiology of the Human Central Nervous System. I. Anatomical Section. II. Clinical Physiological Section. Sternbeg and Latzko.

7. The Contraction of the Sphincter iridis in Convergence, and the Convergence and Lateral Movements of the Eyeballs. An Experimental Study. Marina and Cofler.

8. Contribution to the Casuistry and Etiology of Intermittent Claudication. Idelsohn.

9. A Contribution to the Knowledge of Herpes Zoster. Hedinger.

10. Brief Communications. I. Remarks upon the article "The Etiology and Pathological Anatomy of Tumors of the Frontal Brain," by Dr. Ed. Muller, Vol. 23, Heft 5 & 6, p. 378. Auerbach. II. Reply to the Preceding Remarks of S. Auerbach. Muller.

6. *Hemicephalus.*—By hemicephalus Sternberg means partial absence of the brain, the medulla oblongata and, perhaps other parts, being still recog-

nizable macroscopically. His subject was a new-born child with a typical malformation of the head, and a mass about the size of a pigeon's egg springing from the base of the skull and occupying an orifice in the hairy scalp. Through this mass of tissue a funnel-shaped opening communicated with the fourth ventricle. The spinal cord, medulla and remnants of the pons, were present. The spinal cord was 17 centimeters long. The microscopical description, in spite of defects in preservation and consequent impairment of the staining, is minute. For the details reference must be made to the original. It showed that the central nervous system had been well formed as far anteriorly as the locus coeruleus, and that there were small particles of tissue that evidently represented atypical fragments of other parts of the central nervous system, including the cerebellum, which was attached to the medulla oblongata. The spinal cord was diminished in size. The medulla oblongata showed absence of the pyramids, the olivary bodies were abnormal, and the central canal remained closed. The pons was greatly reduced in size, and contained no medullary substance. In tne spinal cord the posterior columns formed the largest portion of the white substrance. The central canal was nearer the ventral surface of the cord, and there were certain resultant malformations of the gray matter. The central nervous system lacked the cerebrum, the mid-brain and the pyramidal tracts; the cerebellum was reduced to a slight communication with the restiform body, and there were a variety of other defects involving various nerves and other structures. Sternberg has carefully collected all the records of anencephalic and hemicephalic monsters who have lived after birth. His own subject was born alive. Before birth, when the finger was thrust into the child's mouth it made active sucking movements. It breathed without assistance, and began to cry vigorously. It nursed vigorously from the bottle, and during nursing a few drops of a clear liquid were expelled from the opening in the skull. Two days after birth its temperature was abnormal, the face cyanosed, the eyes open, but could be closed, tne mouth usually open, but also from time to time it was closed. Touching of the eyelids caused prompt closing of the eyes. Touching the cheek with ice caused a deep inspiration. The mucous membranes of the nose were sensitive. The reaction of the pupils to pain was not present; the other reactions could not be determined. The child was apparently deaf. The left hand showed a slight inclination to claw-deformity. The child grasped an object with either hand. There was a slight spasticity, but the arms and legs were capable of spontaneous movement. There was apparently a Kernig's sign. The patellar reflex was multi-muscular, crossed and exaggerated. The Achilles tendon reflex could not be elicited. The child died at the end of sixty hours. On account of its weak condition when first seen two days after birth, the examination was not complete. It appears, therefore, that certain reflexes are situated rather low in the nervous system. Among these are the sucking reflex, the crying reflex, the inhibition of the crying when food was given, the reflex due to pain or disagreeable stimuli, the mimic reflex, the reflex for sighing and for closing of the eyelids. It is particularly interesting to note the movements in the upper extremities which involved a good deal of co-ordination, and were as well performed by the child under observation as by a normal child. In this case grasping of the fingers was observed for the first time in a hemicephalic. There was no tendency to protect itself from disagreeable stimulation, such as tickling the mucous membranes of the nose.

7. *Lateral Eyeball Movements.*—Marina and Cofler call attention to the fact that in transplantation of the various muscles controlling the movements of the eyeball there is a longer or shorter interval in which strabismus occurs, but this gradually disappears and the movements of the eyeball become physiologically correct. All these experiments were performed by Dr. Cofler upon apes. When the power of convergence was restored in these animals it was noted that the pupils contracted normally,

showing that the convergence reaction had nothing to do with the centers of innervation of the ocular muscles, or with the nuclei of the ocular muscles. There were also some interesting conclusions regarding the actions of the various muscles. In one case he had a muscle torn and cut, and then studied the oculomotor nuclei and found a localized area of cell reduction.

8. *Intermitten Claudication.*—Idelsohn reports fourteen cases of intermittent claudication. There were eleven men and three women, the ages ranging from twenty-seven to fifty-nine years. There was frequent absence of the pulse in the dorsalis pedis artery. It was only distinctly present in four of the twenty-eight feet. The pulsus tibialis posticus was only distinctly palpable in five of the twenty-eight legs. In eight cases there was a bilateral flat-foot. Of the fourteen patients twelve were Jews, and other statistics indicate that this race is peculiarly subject to the disease, furnishing forty-nine of fifty cases collected by Hegier and Goldflam. Idelsohn believes that the cause of the disease is an abnormal construction of the vascular system, or a diminished resistance of the blood vessels. He is rather inclined to discredit any important etiological connection between the disease and alcohol, tobacco, syphilis, or even flat-foot. Neuropathic heredity does not appear to play an important role.

9. *Herpes Zoster.*—A man of fifty-seven who had syphilis some years before had failure of compensation, and eighteen days before his death developed a zoster extending from the posterior median line to the anterior median line on the left side, in the region of the eleventh dorsal root. At the autopsy, besides lesions of the heart, lungs and kidneys, there was a large colloid tumor in the retro-spinal region. There was a perivascular lymphocytic accumulation most marked in the left posterior horn of the spinal cord, and at the level of the 11th and 12th dorsal segments. At the level of the 11th dorsal segment there was also an area of degeneration in the left pyramidal and cerebellar tracts which extended obliquely downward and outward. It was not observed below the eleventh, and became rapidly less upward and disappeared at the level of the ninth dorsal segment. Some degenerated fibers were found in the eleventh dorsal posterior roots; elsewhere the spinal cord and the posterior roots were normal. The eleventh dorsal ganglion showed an extraordinary degree of cellular infiltration composed almost exclusively of lymphocytes. There was also proliferation of the connective tissue. The ganglion cells were degenerated. There were two small necrotic areas in the ganglion, and also some degeneration of the fibers. There were slight changes in the 10th and 12th dorsal ganglia. The skin at the site of the eruption showed considerable round-cell infiltration. There was also a hydropic degeneration of the cells of the rete Malpighi. In the deeper layers of the skin the round-cell infiltration was found chiefly in the neighborhood of the sweat glands and blood vessels. The case may be regarded as a confirmation of the conclusions of Head and Campbell that herpes zoster is due to disease of the ganglia of the posterior roots.

10. A bitter controversial article between Auerbach and Muller regarding the value of the former's article concerning the functions of the frontal lobes. J. Sailer (Philadelphia).

Miscellany

Unilateral Transitory Abducens Paralysis. M. Wiener (Journal A. M. A., August 26).

The author reports four cases of transitory, unilateral abducens paraly, sis, unassociated with any other ocular paralyses or with any tangible disease. All the patients were females, two of them children, aged 9 and 12 years, respectively; one was a girl of 16, and one a young woman of 28. All four were apparently cured by small doses of sodium bromid and suggestion. He reviews other cases in the literature, and thinks that the facts demonstrate that a functional, or hysterical, paralysis of the abducens does occur without there being necessarily any other hysterical signs, a fact that is of diagnsotic as well as prognostic importance.